

pāhoehoe has been removed. The pieces that were removed are often found immediately adjacent to the edges of the pit. Most of the pits contain some sort of a void in some part of them, though areas were encountered during this project in which the underlying stratum was immediately beneath the broken portion. Some pits were encountered that appeared to have been re-filled after excavation. One characteristic of the excavated pits is that the loosed rock has been turned over so that what was naturally the bottom side of the surface facing downward is found adjacent to the pit area facing upward. The re-filled pits usually contain a combination of rocks facing bottom side upward and some with the original top surface facing upward. This distinguishes these re-filled pits from naturally collapsed tubes and bubbles in the pāhoehoe, which characteristically appear to simply have been crushed in place with no movement of the pieces, and all top surfaces still facing upward.

The table in Appendix A presents information collected during the project for each pit. One-hundred thirty-six (136) pits were identified during this project. The average length of the pits

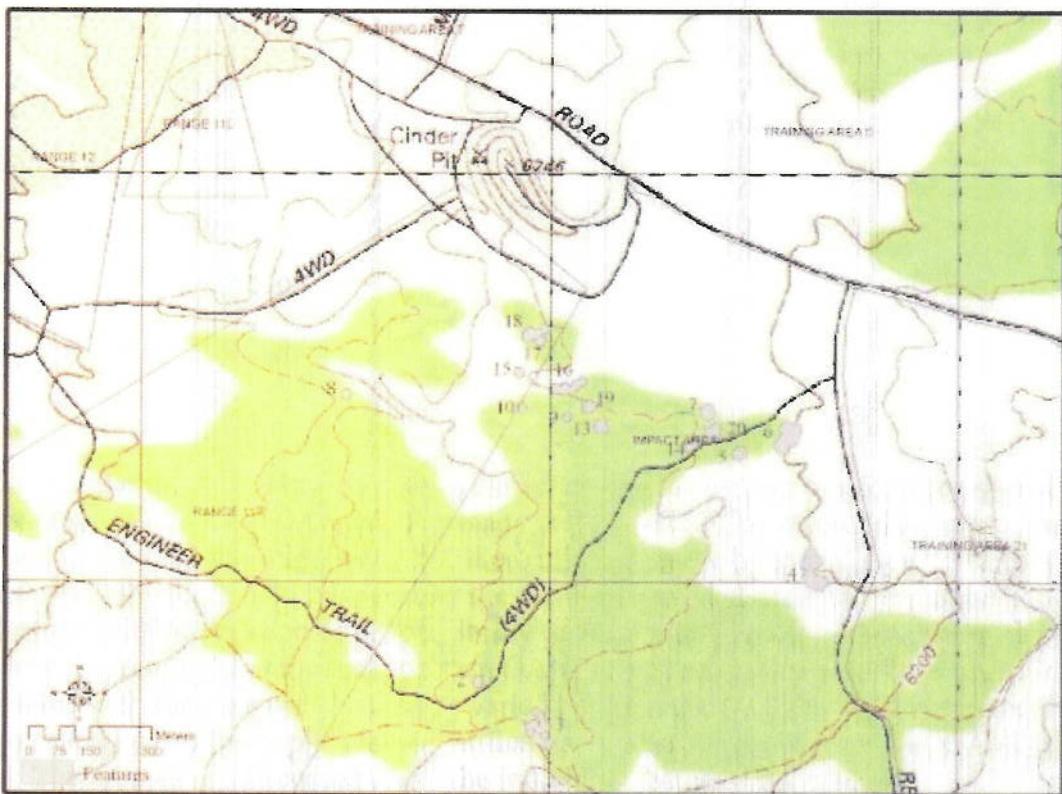


Figure 5. Site 2362 Feature Locations

was 1.49 m, with a range of 0.15 to 5.10 m. Average width was 0.9m, with a range of 0.1-2.35 m. Of the 90 pits for which depth was measured, the average was 0.31 m with a range of 0.05-0.60 m. Pits were excavated in lava blisters, lava tubes, and in the rings that formed as the lava pooled at the end of a stream. Numerous excavations were noted to have taken place along the edges of a flow, such that a portion of the "pit" was actually open and the floor of the pit actually contiguous with the adjacent ground surface. In several instances pits were excavated in different parts of the same lava tube, so that one could be seen from the other. The pits were generally of an irregular shape, tending to be circular or oval. The breakage most likely followed natural planes in the rock.

The pieces of rock from the break event were usually located both within and adjacent to the excavated pit. Very little sediment was deposited on the floors of the excavated pits, and where sediment was present it was generally very shallow. Most pits had lichen growth on some part of them, and many had other plants growing from within them. An overhang with a void beneath it was recorded for 95 of the excavated pits, while no evident overhang was recorded for 41 of the pits. Some of the pits exhibited possible evidence of battering, but in many cases it was difficult to separate this from natural weathering of the rock. A few pits had what appeared to be small pieces of the rock broken off in the process of battering. The pieces of rock associated with the pits were not examined for battering. No artifacts were noted in association with the excavated pits. The feature descriptions are presented here in the order in which the clusters were visited. Those pit clusters that fall within Range 11T or close to it are discussed first as these were visited during the first two days of the project. Photos of the pits can be found in Appendix B.

Feature 18 (GANDA #688) was originally reported by GANDA to have 3 excavated pits. Seven (7) excavated pits were identified over an area measuring 80 x 30 m (Figure 6). The site extends over a rise in elevation to the northeast, where some of the pits lie on top of the higher elevation. Four are located in a lower location that may provide protection from activities in the area. This feature falls within the area identified as Range 11T, and within the surface danger zone for the new firing exercises planned for the range (hereafter SDZ).

Feature 17 (GANDA #687) was recorded by GANDA to contain 4 pits. The cluster is adjacent to Feature 18, covering an area 9 x 5 m. Two (2) excavated pits were identified at this location, and both were at a lower elevation than those of site Feature 18. The entire area had a large amount of jumbled rock but none was clearly culturally modified. A natural depression was located to the northeast of the two excavated pits, but there was no evidence of human modification at this location. This feature falls within the area identified as Range 11T, and within the SDZ.

Given the close proximity of these two clusters (GANDA site tags were found in one pit in each cluster), it was not clear which pits other than those with the site tags in them were associated with which cluster. Regardless, the total number of excavated pits for these two features combined was seven according to GANDA, and nine were recorded between these two features by this project.

17 and 18 are located in the same area, corresponding to a red pahoehoe lava deposit. Both features are very large, about 10 m wide and 10 m long, with several shallow, walled pits, and other shallow depressions. The features are located in the bottom of a natural 'a'a lava trench with high berms on either side that provide natural protection to this cluster. This feature falls within the area identified as Range 11T, and within the SDZ.

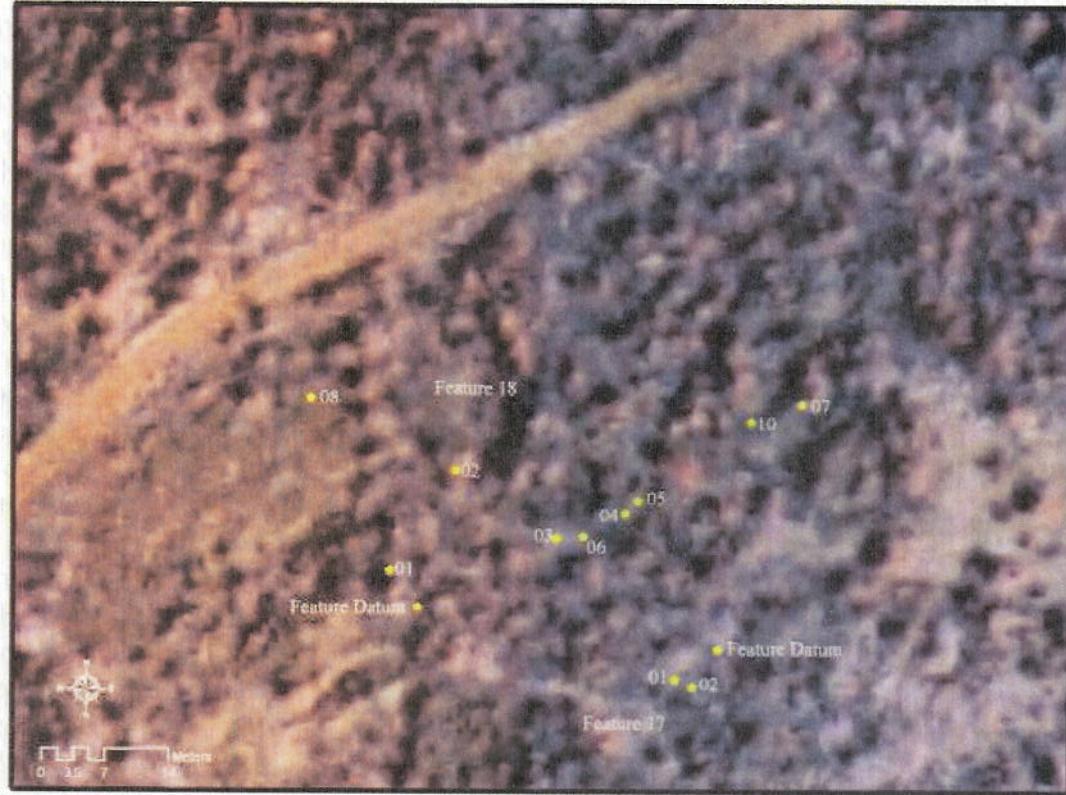


Figure 6. Site 23621 Features 17 and 18 Plan Map

Feature 15 (GANDA #682) was originally identified by GANDA as having only a single excavated pit, but Robins, González & Peterson 2006 reported two pits at this feature. Two (2) excavated pits were identified during the current project in an approximately 7 x 4 m area. This cluster was located in the bottom of a natural 'a'a lava trench with high berms on either side that provide natural protection to this cluster. This feature falls within the area identified as Range 11T, and within the SDZ.

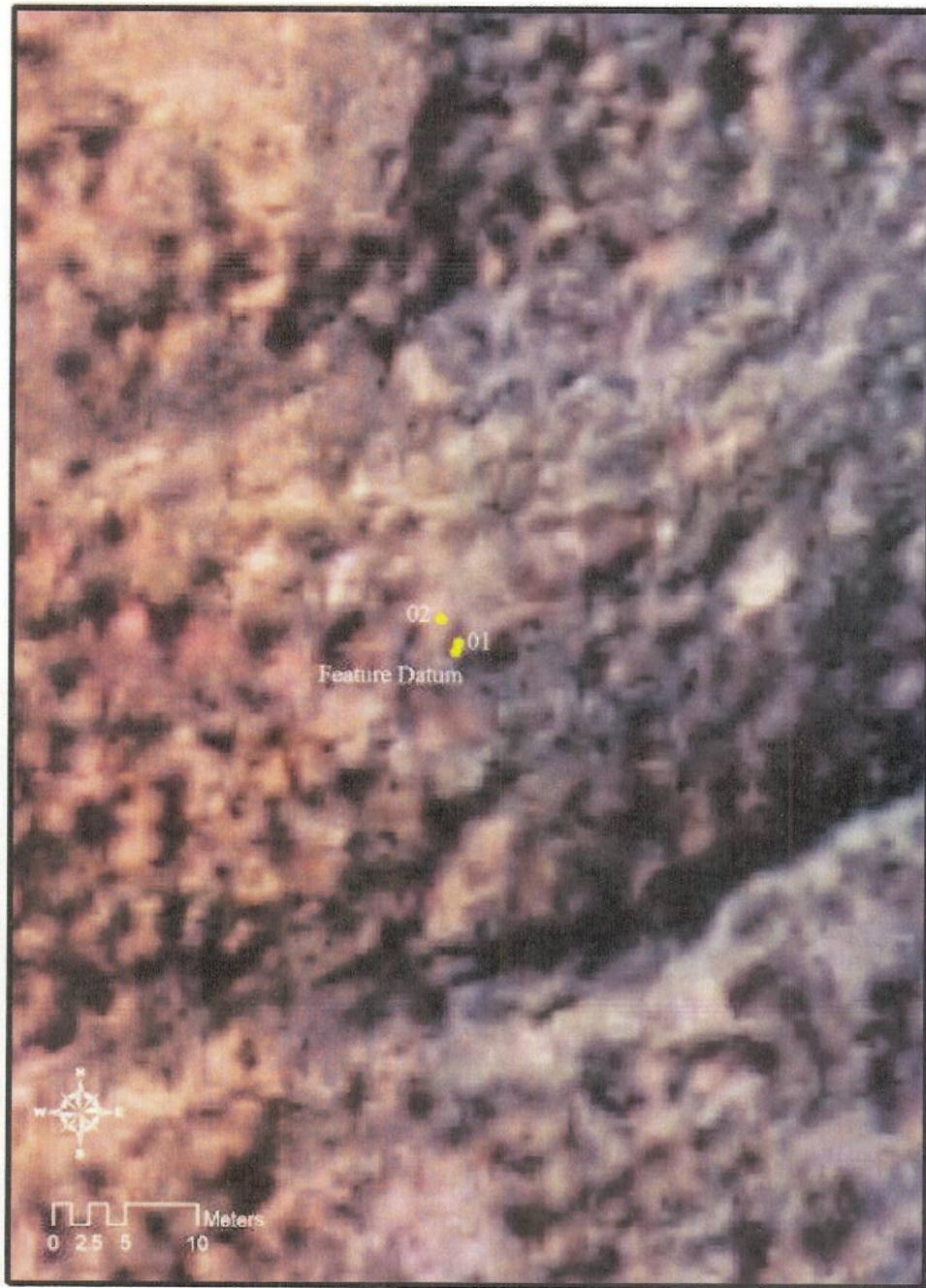


Figure 7. Site 23621 Features 15 Plan Map

Feature 8 (GANDA #678) is located behind, roughly south, of a large man-made berm. GANDA identified three pits in this cluster. Seven (7) excavated pits were identified by the current project at this location in two concentrations that extend over a 13 x 13 m area. This cluster is at a lower elevation than the berm, though the landscape around it is fairly open and flat. The pits are

on level horizontal ground surface. This feature falls within the area identified as Range 11T, and within the SDZ.

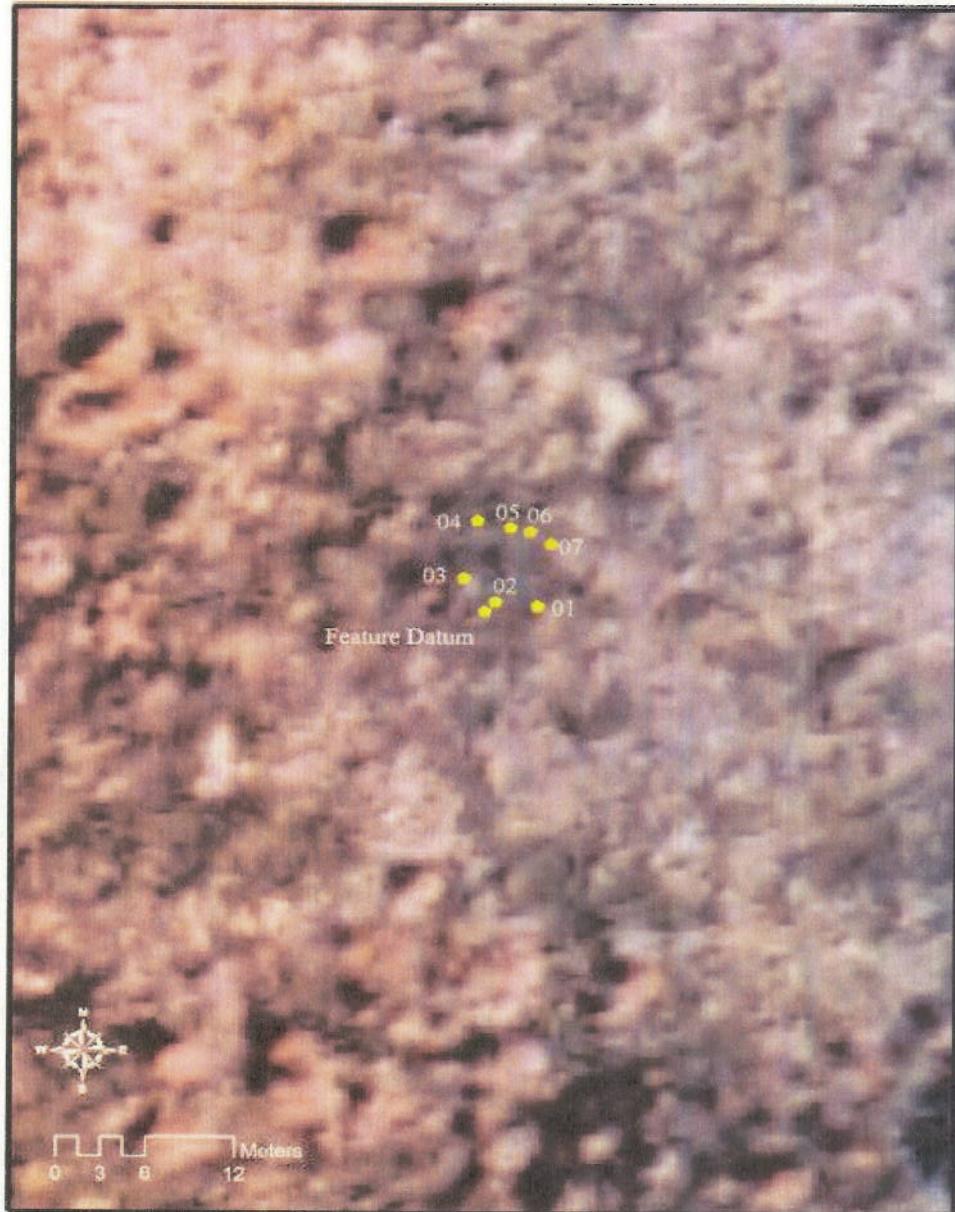


Figure 8. Site 23621 Feature 18 Plan Map

Feature 2 (GANDA #658) was identified by GANDA as including 10 or more excavated pits. The current project identified four (4) features close to Engineer Trail (a dirt road) extending over an area 19 x 11 m. The area is in a low spot, with the topography rising to the north. The



Figure 9. Site 23621 Feature 2 Plan Map

pāhoehoe is weathering badly and many of the features that were identified by GANDA appear to either be natural weathering or the result of a tank driving through the area. The rock pieces appear to have been crushed or collapsed in place. Few of the rock pieces have been moved out of place,